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ABSTRACT

This study describes Uganda, its rural primary schools, and the Namutamba-Basic Education Integrated into Rural Development (BEIRD) project from 1971 through 1979, which infused agriculture and appropriate technology into the curricula of teacher colleges and primary schools. A similar project in Belize, the Relevant Education for Agriculture and Production (REAP) program, is also described. The strategic plan of June 1986 to revitalize BEIRD is analyzed using 5 essential strategic planning elements, 11 planning definitions, a general problem solving model, and the "problem pyramid" concept. The strategic plan addresses five problems, which are the lack of: life-adaptive knowledge and skills among rural primary school graduates; a BEIRD organizational structure at national, district, and community levels; a curriculum that integrates practical and academic instruction; a BEIRD preservice/inservice teacher training system and materials; and adequate primary school teaching materials and methods. Each problem is analyzed using the eight-step problem solving process. (Author/JMM)

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Uganda's Basic Education Integrated Into Rural Development (BEIRD) Program: Planning Phase

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and

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ABSTRACT

The study describes Uganda, its rural primary schools, and the Namutamba-Basic Education Integrated into Rural Development (BEIRD) project from 1971 through 1979, which infused agriculture and appropriate technology into the curricula of teacher colleges and primary schools. A similar project in Central America is also described.

The June, 1986 strategic plan to revitalize BEIRD is analyzed using: five essential strategic planning elements; eleven planning definitions; a general problem solving model; and the "problem pyramid" concept. Five problems addressed in the strategic plan are the lack of: life-adaptive knowledge and skills among rural primary school graduates; a BEIRD organizational structure at national, district, and community levels; a curriculum that integrates practical and academic instruction; a BEIRD preservice/inservice teacher training system and materials; and adequate primary school teaching materials and methods. Each problem is analyzed using the eight-step problem solving process.

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Although the individuals and organizations involved in developing the BEIRD strategic plan greatly influenced the perspectives of the author, the opinions and conclusions expressed in this paper are solely his, and do not necessarily represent those of CARE/Canada, the Government of Uganda, the Florida State University, or the Center for Instructional Development and Services.

1.0 PREFACE

1.1 Nature and Purpose of the Study

This paper combines elements of description and conceptual analysis. The description of the Basic Education Integrated into Rural Development (BEIRD) program was undertaken to inform those who are interested in the efforts of Less Developed Countries (LDC's), in this case Uganda, to revise their traditional, academically-oriented primary school curricula. The concept analysis of the strategic planning process describes how ambitious endeavors such as BEIRD may be planned and undertaken with greater confidence in success.

1.2 Data/Information Sources

Much of the data and information presented in the paper were gathered during a month-long visit to Uganda in June, 1986. Because BEIRD has a history dating back to the late 1960's, many of the participants in the first phase of the BEIRD project were interviewed, as well as current national, district, teacher college, and village-level educators. In addition to the data on BEIRD, reference is made to a program similar to BEIRD, the Revelent Education for Agriculature and Production (REAP) program in Belize. Data on REAP were collected during twenty-six trips to Belize from October, 1977 to August, 1986, and were previously documented in a nine-year evaluation of that project (Massey, 1986).

The considerable similarity between BEIRD in Uganda, East Africa, and REAP in Belize, Central America, was due to the two countries parallel development as British Colonies/Protectorates since the latter part of the nineteenth century. Both educational systems were strongly influenced by their British colonial model. Thus, it is not surprising that both countries had

similar educational problems after becoming independent nations. Add to the equation the obvious agricultural potential of both Uganda and Belize and the similarity of BEIRD and REAP is easy to understand. This is not to imply that exactly the same problems exist in Uganda and Belize, nor that the exact same solution would be viable in the different circumstances that the two countries find themselves.

2.0 PERSPECTIVES

2.1 Overview of Uganda

During the millennia before the European incursion into what is now Uganda, a diverse geography and a multitude of cultural and linguistic influences fractionalized the people into a patch quilt of tribal allegiances. When Great Britian redrew the map of East Africa during the last decades of the 19th century, the British colonial system of administration and the imported religion only added to the tendency of the parts to tend to pull apart, rather than draw together into a unified nation.

Uganda is a microcosm of the geographical environments found in Africa. Even in a continent of superlatives, it is singularly, stunningly beautiful. Lofty "Mountains of the Moon" plunge into tropical rainforests in the West and South. Cool, well watered, elevated plains characterize the center of the country. Great lakes and rivers, including the White Nile, border the savannas of the North. Increasingly dry regions are found in the East. Over time, these dramatic differences have tended to create diversity rather than uniformity among the people.

Most of Uganda's 15,000,000 people live close to the land, with 86 percent of the population residing in rural areas. Out of an economically active

population of approximately 6,426,000, 86 percent work in agriculturally-related occupations (United Nations, 1983). Called the "Pearl of Africa" because of its extravagantly fertile soil, moderate climate, average rainfall of 40-60 inches per year (except in the Eastern districts) it produces a wide variety of plant and animal crops, including cotton, tea, and coffee for export. Fish from its many lakes and rivers are an important food source. Many conditions that afflict agriculture in other parts of Africa, such as environmental castastrophies and drastic land shortages, do not restrict Ugandan agriculture. Ugandans believe that the future of their country depends, to a great degree, on how this potential bounty in agriculture is used.

There are four major cultural-linguistic groups in the country. The Bantu language group is quite diverse and contains approximately 66 percent of the population. Nilotic language tribes (about 14 percent) and Nilo-Hamitic speaking people (about 13 percent) represent the second and third largest groups in Uganda, with the Sudanic language groups the smallest (6 percent).

These four major cultural-linguistic groups are further sub-divided into thirty-three tribes, each with its own customs, leaders, and political allegiances (Ibingira, 1973). Tribal allegiance and dependence is strongest among the rural, less-educated population as compared to the more cosmopolitan, urban middle class in Kampala (population approximately 600,000) and the other smaller cities.

One aspect of the culture which is particularly "Ugandan" is the distinction made between individuals who come from one of the traditional kingdoms (Ankole, Buganda, Bunyoro, Busoga, and Toro) which historically dominated much of the country, and those who come from "non-kingdom tribes."

The British colonial system of "Indirect Rule," whereby British interests were maintained through a system of alliances between Britian and the kingdoms, exacerbated the resentment of those not favored in the treaties. This made national reconciliation and unification after independence just that much more difficult. The religion imported by the British missionaries was the source of some early conflict and sectarian strife between various Christian denominations (which now comprise approximately 80 percent of the population) and later with the Muslims (approximately 10 percent).

The British system of parlimentary representative democracy and a federal form of government were adopted when Uganda became independent. However, because of the influence of the aforementioned disunifying factors, the government was changed to a more centralized and less democratic form within a few years. For twenty-five years the country was devastated by entrenched political oligarchies. Alternating periods of political upheaval destroyed the economy and the hard work of many Ugandans planning and striving for a better future. The war with neighboring Tanzania saw protracted fighting which devastated rural and urban areas. The latest civil war added to the desolation and destruction. In June, 1986, the revolutionary government was in the process of reestablishing national order, to the general relief of most of the people of Uganda.

The Basic Education Integrated into Rural Development (BEIRD) program was developed within the context of modern Uganda. It, along with so many other aspects of Ugandan society, suffered the setbacks of the turbulent recent past. It was within the context of national regeneration and revitalization prevalent in Uganda that the BEIRD project in primary schools was resurrected and refocused.

2.2 Overview of Ugandan Primary Education

British culture, in the form of a transplanted educational system, followed the British flag into Uganda. Missionaries, who founded the first formal British-style primary schools, had goals to develop ". . . readers who would become candidates for conversion to Christianity . . . (and to) . . . transmit a set of values and habits which were often in opposition to traditional practice" (Evans, 1969). From the turn of the century until well after World War II, the strictly academic curriculum that was considered to be the best for Victorian Englishmen remained the standard of the Ugandan educational system. In addition to the academic education, the British colonial curriculum had the goal of maintaining Britian's position in East Africa by ". . . training tribal chiefs and clerical staff" (Eriaku, 1983).

As Uganda approached nationhood, the cry for a less elitist, less exclusive educational system led to a ". . . nearly eight-fold expansion of expenditures on education during the decade . . . In 1957, the government announced its aim to integrate all education in Uganda which had previously been separated along racial or communal lines" (Evans). Through the early 1960's (with a few exceptions such as BEIRD) the instructional content, methods, and materials were still biased towards a European model. Several Ugandan secondary schools and Makerere University in the capital, Kampala, were viewed as models among their counterpart institutions in East Africa.

The twenty-five years following independence witnessed a continuing expansion of the primary school system. However, the political chaos gripping the nation undercut the imaginative efforts of educators to break with the traditional pedogogic approach of the past. "Uganda's education system today suffers from the long-term wear and tear to which it was subjected through negligence during the . . . years of military rule; (it was) . . . crippled

even further during the liberation war from severe looting and bombing. The need for a serious reappraisal of the education system is greatly felt and desparate . . . the cry remains and continues for an education system which is divorced in its philosophical, cultural, and moral assumptions from that of the colonial era" (Eriaku).

By 1985 there were approximately 4,945 primary schools and 44,945 primary school teachers in Uganda instructing 1,616,791 students, 43 percent of whom were females (United Nations Educational, Scientific and Cultural Organization, 1985). Ministry of Education (MOE) officials in June, 1986 placed the figures at approximately 1,500,000 students, in six or seven thousand primary schools, with about 45,000 teachers. Approximately 15 percent of the primary school age children were not enrolled. Accurate statistics were still unavailable, a result of the devastating effects of the war which saw some rural schools damaged to the degree that they ceased to function. Three years earlier (1982) there had been approximately 145,389 students enrolled in the general academic secondary schools; 3,967 student teachers in 96 teacher training colleges (secondary level); and 3,557 students in secondary-level vocational training. The academic pyramid peaked at university level where only 52 persons per 100,000 inhabitants (or approximately 7,500 students) made it to this elite level (UNESCO).

The majority of rural primary schools have 200-300 pupils and a teaching staff of 5-8 teachers, approximately 70 percent of whom are graduates of secondary-level teacher training colleges. The rural school's physical plant normally consists of a series of connected classrooms, sometimes with electricity, and a large school compound of 4 or 5 acres. Many of the primary schools have production gardens growing two or three traditional crops that are used to feed the children and staff a daily snack. Children's work in the

garden areas is generally not integrated with the academic instruction. Parent-Teacher organizations exist in most schools, but are generally inactive. Many parents feel that the small fee they pay for their child's enrollment in school and the fees for the child's learning materials are sufficient involvement in the educational process. A visitor is struck, not so much by the obvious lack of resources in the rural schools, but with the courage and perseverance with which the poorly paid teachers go about their tasks. In obvious contrast to the overall picture of public primary schools are the more elite better funded private schools in both rural and urban areas.

The Government of Uganda is continually faced with making trade-offs between what it wants to provide for the primary schools and the realities of scarce resources. Support for primary schools from either the national or district MOE representatives is severely restricted. Much of the support given by the MOE and instruction delivered in the village schools is the result of sheer will power on the part of educators who use their ingenuity and "make-do" attitude to keep the educational system going, in spite of political turmoil, civil war, foreign invasion, and a fluctuating economy. The wonder is not that Ugandan education has met setbacks, but that it has managed to maintain itself, and even in some cases, moved forward!

The Ugandan school system is instantly recognizable to anyone familiar with the British colonial model of education. The seven years of primary school (P1 to P7) are followed, for perhaps 20-25 percent of the students, by four years of high school, called O Level, leading to the Certificate of Education. An even smaller percentage continue on for two more years of university preparatory school, or A Level, which results in the Advanced Certificate of Education. Theoretically, the entire educational enterprise leads

students to a three-or-four-year course at a university. The realities of the educational system are quite different than the European model upon which it was structured.

Many of the scarce instructional student materials available in the primary schools are outdated and of foreign origin. "Uganda cannot import adequate books . . . This means that many children can not obtain books to read" (Kiyimba, 1981). The Ministry of Education is hard pressed to publish curricular materials for use by teachers, let alone instructional materials for pupils. The importance of reading materials was underscored by Heyneman (1975). His study of academic achievement pointed out that the ratio of P7 books per child (along with teacher's English quality and school facilities) was a significant factor in explaining the variances (differences) on the Uganda Primary Leaving Examination (PLE).

In most schools the everyday instruction is heavy on rote memorization and light on practical application. Little relevance is built into the academic training to bridge the gap to a rural child's immediate environment. Although the majority of rural primary school teachers are graduates of the nation's 96 three-year teacher colleges, or even graduates of a university course, all of their pedagogical orientation is academic and traditional and does not equip them to build these bridges.

The academic orientation of the primary school curricula and teachers is also maintained by the force of public opinion. Parents have a single-minded belief in the value of the traditional content and traditional methods as the only way of insuring that their child will score well enough on the PLE to merit admission to the next higher rung on the academic ladder.

"The result is a very close attention on the part of the schools to the task of preparing pupils for the examinations and a consequent limiting of the

content and aims of teaching to those things required by the examination syllabus. One of the more unfortunate aspects of the system is a tendency to encourage slavish adherence to syllabi which are derived from another country and which are, therefore, of questionable relevance to the educational goals of Uganda" (Evans). A corollary to this outlook is that anything that might detract from children's academic achievement is to be viewed with suspicion.

The tremendous emphasis placed exclusively on academic training would be questionable in an agriculturally-oriented country, even if the system operated to the theoretically optimal limits, with every child who entered primary school successfully completing each successive level of the academic ladder until completion of a university degree. Of course, this isn't the way it works. Of the 155,763 P7 children who took the 1985 PLE, only 40,560 (26 percent) were admitted to the scarce post-primary openings. The remaining 115,203 school leavers (a term meaning school completers, not drop-outs) were faced with the immediate prospects of finding some useful, productive role in society. Many Ugandan educators, while not denegrating the value of a basic academic education, feel that the exclusion of applied practical learning for the many young people who are unable to continue with formal education leaves them without hope of bettering their living standards in the rural areas. This situation contributes to the urban flight of many young people, overburdening government programs in the cities, creating unemployment and discontent, and depriving the rural areas of successive generations of individuals who, given adequate practical preparation, could help develop the agricultural sector.

2.3 The Namutamba Project/First BEIRD Project

In 1966 the 14th Conference of UNESCO brought African educators together in Kampala to consider the conditions of the educational systems of the newly emerging independent African states. One of the conclusions reached by the delegates was that the colonial primary school curricula prevalent at the time were overly academic and did not meet the needs of the students in adapting to their environments, nor were they assisting in the process of national development.

The Namutamba Teachers College (TC) in central Uganda was designated as the site for a pilot project to revise the traditional curricula of the TC and associated primary schools. In the new curriculum student teachers and primary school students would learn plant and animal husbandry, how to make building materials, and how to construct useful arts and crafts. Although the concept of "appropriate technology" was not used, as such, the principle of teaching knowledge and skills that would be immediately useful and viable in rural Uganda was made a goal for the innovative project and incorporated into a series of instructional modules.

The developers of what commonly came to be called the "Namutamba Project" did not want to reduce the academic content of the curriculum. They also didn't want to damage the performance of the P7 (8th grade) students from associated primary schools on the all-important Primary Leaving Examinations. As in other countries attempting similar restructuring of the primary school curricula, the Uganda MOE decided that the logical place for the new content would be the primary science curriculum for P5, P6, and P7. Primary science was revised to include a variety of activities such as raising chickens and ducks, growing vegetable gardens, making bricks for construction, and making handicrafts out of locally available materials. Environmental knowledge was

stressed along with the traditional content of primary school science. The instruction received by the student-teachers in the Namutamba TC and the students in the 15 primary schools eventually associated with the project emphasized experimentally-based instruction, rather than "book-learning."

The Namutamba Project functioned very much as an entity unto itself. Inservice activities were set up for the teaching staff at the TC and then later offered to the teaching staffs of the associated primary schools, most of which were located within one hour's travel to Namutamba TC. Funding was provided jointly by international agencies and the Government of Uganda through the MOE. No administrative restructuring to support the project occured in the MOE or the district in which the project operated. No MOE plans for possible systematic dissemination/diffusion of the pilot project's ideas were made.

The innovative aspects of the project, that is, the new curriculum content and the experimentally-based instruction was very popular and considered a success. Evaluations of the Namutamba Project were limited to accomplishment of what we will call "process objectives" (building a classroom for training the student-teachers, setting up gardening facilities in the primary schools, etc.) and observation of the general acceptability of the project to participants and community members. The lower scores in Science of Namutamba Project Associated Primary School students on the PLE were cited as possible proof of a detrimental effect of the project on student scores, but the recommended follow-up longitudinal studies to confirm the hypothesis were not carried out. No competency-based data on the acquisition of knowledge or skills in the new curriculum areas by student-teachers or primary school students were collected.

During the mid-seventies the "Namutamba Project" model spread to two additional teachers' colleges, with each TC associating 10-15 primary schools from their immediate geographical areas. Significant material accomplishments were made at all three sites, but by the latter part of the decade UNESCO support began to wane.

During this time the Government of Milton Obote had been overthrown in a military coup by Idi Amin Dada. The economic chaos into which the country was rapidly being plunged affected the MOE and its ability to support the popular project. In 1977 the Primary School Science Curriculum was revised and the concepts of the Namutamba Project were incorporated into what became the Basic Education Integrated into Rural Development, or BEIRD program. Idi Amin visited Namutamba and in his own inimitable fashion, declared that the BEIRD program should be implemented immediately throughout the country, in all 5,000 primary schools and 93 teacher colleges! Although the government touted BEIRD at numerous conferences as its main thrust in primary school education, no additional funds to support the expansion, nor preparation to facilitate the gigantic task were forthcoming. Uganda was being drawn inexorably into a ten-year cycle of invasion, civil war, and social chaos which put an effective halt to normal living conditions in Uganda and spelled the demise of BEIRD. Although isolated aspects of BEIRD were still discernable in June, 1986, for all practical purposes the program could be judged to have been dormant until early 1985 when officials of the MOE aproached CARE/Uganda with a suggestion that they jointly revitalize BEIRD.

2.4 The Relevant Education for Agriculture and Production (REAP) Program

In November, 1975, while BEIRD in Uganda was in the process of expanding into additional schools, half-a-world away and without any knowledge of what

their African counterparts were doing, the Government of Belize (Central America) embarked on a similar path. It called together several government ministries and representatives of three international organizations, among them CARE/Belize, to discuss how they could revise the curricula of the rural primary schools to make it possible for children to learn both academic and practical subjects. Both Belize and Uganda had been British Colonies/ Protectorates; both had inherited the British colonial primary school curriculum with its exclusive emphasis on academics; both were agriculturally-oriented countries with a great deal of potential in agriculture. Most importantly, both had unacceptably large numbers of its primary school leavers (graduates) who, for a variety of reasons, could not go on to secondary school and could not cope well in rural areas with their academic education as the only tool to help them find productive employment.

The REAP program was intended to: 1) help **teach** the traditional subjects; 2) help **reinforce** the traditional subjects by providing practical, environmental examples of usage; 3) **teach new knowledge and skills**; 4) **organize** an inter-agency national committee and district-level interagency groups to plan, support, and maintain the program; and 5) **evaluate** the accomplishment of both process and product objectives in order to use available resources most effectively.

An evaluation of the REAP program after nine years of simultaneous development, implementation, and evaluation showed that: 1) the program was being implemented in all REAP schools, but that the degree of implementation was uneven; 2) that participation in REAP not only did not hurt the students' scores on 25 primary leaving examinations (from 1977-1985), but in ten examinations REAP students did better on the PLE's than non-REAP students; and 3) that the students were able to produce significant amounts of agricultural

products for local consumption and sale. No competency-based evaluation of the acquisition of practical knowledge and skills, nor of the carry-over use of the knowledge and skills by school leavers was possible (Massey).

The REAP experiences were useful to the BEIRD planners in 1986 not because it could provide a blueprint to be copied and used in Uganda, but because the REAP experience gave Ugandan planners added confidence that their original idea was on the right track. They saw that with some modifications, based upon their own experiences and assessment of present conditions in Uganda (and using REAP as a second frame of reference) they could develop a revitalized and successful BEIRD program to carry on where the first effort had been interrupted. Many of the developments in REAP had been anticipated in BEIRD, but were not possible due to the social upheaval that Uganda experienced.

A major difference between Uganda and Belize, other than size and population, was that Belize remained politically and economically relatively stable after Belizean independence in September, 1981. This allowed REAP to develop in an atmosphere where plans could be made with some assurance that conditions would allow them to be carried out.

REAP went through three phases. The Pilot Phase (July 1976 - June 1979) saw REAP introduced into the curriculum of the Belize College of Education (teachers' college) and eight primary schools where the concept was tested and modified. During the second, or District-Level Phase (July 1979 - June 1982) REAP expanded into all six districts and 23 project schools and developed an infrastructure to provide village and district-level support for expanding and maintaining the project. The National Phase (July 1982 to present) witnessed the expansion of REAP into 65 rural primary schools. After December 1985, all funding for REAP was assumed by the Government of Belize (Massey, 1986).

Unlike BEIRD (approximately 1968 - 1978), REAP after October, 1977, was planned, implemented, and evaluated using a strategic planning model. This, along with relative peace in Belize, allowed the REAP program to:

1. systematically develop competency-based, actvity-based, multi-media inservice/preservice teacher training materials. The gaps discovered in the pedagogical and technical training was filled, to some extent, by later development of a system of REAP resource teachers in each district.
2. develop approximately 140 competency-based, actvity-based Learning Activity Packs (LAPs) to assist rural primary teachers, most of whom were not trained teachers, to implement the instructional program.
3. develop a primary school curriculum and teaching methods to integrate the teaching of basic academic skills with practical skills in all of the primary school subjects, not only science, as was the case in BEIRD.

3.0 OVERVIEW OF STRATEGIC PLANNING CONCEPTS AND PROBLEM SOLVING MODEL

3.1 The Strategic Planning Concept

The concepts "strategy" and "tactics" are used in military parlance to distinguish long-range, overall goals from short-term, more immediate objectives. Strategic planning for education combines both strategy and tactics in a planning sequence. A strategic educational plan must be broad in the scope of issues considered and time span covered, as well as specific in detail.

A common problem with educational strategic planning formats is that they are too complex and require inordinate amounts of resources and time to elaborate. With regard to needs assessment models, Whitkin (1971) has stated that

" . . . there seems to be an inverse relationship between the complexity and the utility of . . . (planning) . . . models." Given the realities of scarce resources, limited time and political pressures, complex planning formats are simply not workable in the real world. Too often, the unacceptable alternative to convoluted planning has been a reliance on intuition, a polite word for guessing. The planning of BEIRD required a strategic planning format that was systematic without being debilitating and counter-productive.

What then are the essential elements which a strategic plan should contain? Spikes (1985) says that any strategic plan used in an educational setting should provide for:

1. an examination of current environmental circumstances . . . both within and outside of the organization. He calls this **situational analysis.**
2. the establishment of a statement of purpose or mission with related time-frame goals. He refers to this as **goal analysis.**
3. (the development of) . . . supporting operational objectives and specific plans to carry out those objectives. He names this **operational objective setting.**
4. **resource analysis.**

To this list we would suggest adding **formative evaluation**, the on-going process whereby project procedures and outcomes are monitored to provide decision makers timely and accurate information that can be used to eliminate problems and emphasize successful strategies. This implies that strategic plans must be viewed as flexible, changeable documents that provide a systematic framework for decision making.

Planning documents for REAP and BEIRD took two forms, a strategic plan and a series of funding proposals. Each government ministry and international

agency normally has its own proposal format, review procedures, and budgetary categories. Each proposal for REAP or BEIRD (after June, 1986) was based upon the strategic plan's philosophy, content, and procedures modified to meet the specific needs of each organization. The idea was to make significant programmatic changes first in the more flexible strategic plan and then in the funding proposals and/or budgetary amendment procedures of each organization. The strategic plan was the common denominator, the consensus document for all other plans or proposals.

3.2 Useful Definitions

Before describing the BEIRD strategic plan format, let us pause briefly to establish some definitions of selected planning terms and the significant relationships between them.

1. **A problem** is an undesirable condition(s) in the environment or target population. It is stated as the measurable difference between the present undesirable condition (What Is) and the desired future state of affairs (What Should Be). Statement of the problem is the first step in the strategic planning process, and must involve representatives of all the participating agencies and target groups.
2. **Limiting conditions** are those characteristics of the problem or the problem's environment that the project/program cannot or chooses not to attempt to change. Among the limiting conditions for undertakings such as BEIRD are: a) the **time** span allotted for the project by funding cycles, normal practice and/or political realities; b) the **resources**, human and material (including funds), which could be

expected to be available during and the after the project; the **social structure** in which the project will operate; and **significant individuals** with whom the project will have to interact. Only a hard realistic look at limiting conditions can enable planners to avoid being overly optimistic and not build failure into the project design.

3. **Goals and objectives** are statements of purpose. Although there is general agreement that plans should contain both goals and objectives, there is little agreement as to how these terms are defined. Adding to the confusion of terms is the need to distinguish between means and ends, between process and product. Bertram Gross (1968) cut through some of the semantical and conceptual problems of these terms by placing them in a broader overall context, purposefulness. "A person may be said to have purpose when he (or she) is to some extent committed to action that may bring about some desired future situation . . . Thus the two key elements in purposefulness are futurity and commitment . . . The only realistic concept of purposefulness is that which is based on the idea of a sequence of purposes embedded in a sequence of events . . . The term 'means' (or instrumental purpose) refers to any state or situation which is earlier in time . . . the term 'ends' (or ultimate purpose) refers to any state or situation which is later in a purpose chain or set of chains."

The REAP and BEIRD strategic plans and funding proposals utilized five types of purpose statements which were defined, explicitly or implicitly, as follows:

3a. **Implementation steps** are **very detailed** descriptions of purpose requiring relatively **short periods of time** to accomplish, usually not more than one or two weeks, per step. Several implementation steps

may be done simultaneously. A series of step are normally required to accomplish a project activity (see Figure 1). They normally come first in the implementation sequence and last in the planning sequence (see Figure 2). Strategic plans would not normally contain implementation steps; funding proposals may or may not require them. Work plans, or programs of work, sometimes developed after a project's initiation, are implementation steps with calendar dates and individual assignments of responsibility.

3b. **Implementation activities** are **moderately detailed** purpose statements which often require **several months** to plan, implement, and evaluate. A series of different and/or similar activities are used as the means for accomplishing process (enabling) objectives (see Figure 1). Activities are conducted after the relevant implementation steps are completed, but must be specified before the implementation steps are developed (see Figure 2). A strategic plan would normally require the identification of project activities; all proposal formats would.

3c. **Process or enabling objectives** are the broadest description of the **pre-condition(s)** necessary to produce a desired change in the target population. Process or enabling objectives are ends in the sense that they must be accomplished, but are **not descriptive of the changes desired in the target population;** they are means for producing the desired change (see Figure 1). In terms of project implementation, process or enabling objectives must be accomplished before it is possible to reach the product or outcome; in terms of the planning, the specification of process objectives comes after the specification of the product or outcome objectives (Figure 2).

3d. **Product or outcome objectives** describe the desired future state in a **portion of** the target population, within a specified time frame. The accomplishment of product or outcome objectives are a means of approximating the ultimate goal(s) of a project (Figure 1). In terms of the implementation of a project, the product or outcome objectives are reachable only after the accomplishment of the related process (enabling) objectives; in terms of planning, product (outcome) objectives are detailed before process (enabling) objectives (Figure 2). In large-scale educational endeavors such as BEIRD and REAP, progress towards the goal is usually made by accomplishing a series of product (outcome) objectives that take in cumulatively greater portions of the total target population.

3e. **A goal** is a description of the desired future state in the **entire** target population, without reference to a time frame. The accomplishment of product or outcome objectives is the means by which we approximate reaching the ultimate goal of a project (Figure 1). Goals are similar to product or outcome objectives in the substantive nature of the changed condition or behavior, but differ in the proportion of the target population involved and the time span specified. In education we seldom, if ever, encounter complex changes that include every member of an extensive target population. We approximate goals, rather than reach them. In this sense, goals are like guiding stars that help us maintain our general direction, but are never reached. For this reason, using this definition, goals are not evaluated. Progress towards the goals, as measured by the accomplishment of product (outcome) objectives, is evaluated.

In terms of project planning, goals must be specified before it is possible to determine specific products or outcomes (Figure 2).

4. **Resources** are the human and material means that are appropriate and available for accomplishing the project's purposes. Resources exist within national and international agencies, in the public and private sectors and at all levels of society (international, national, regional, district/state, tribal, clan, village, and family units). Among the resources to be considered are:

   a. resources that can be used "as is," without modification of the individual(s) and/or organization(s) controlling them. These are relatively rare.

   b. resources that could be used but require prior adaptation of the resource itself, or of the individual(s) and/or organization(s) controlling them. These are relatively common. It is best to make an exhaustive preliminary list of resources using "brainstorming" techniques where all even remotely plausible potential resources are listed at first. Only appropriateness and general availability should be used as initial screening criteria (not cost, needed modifications, or time). Only after the preliminary list is generated should limiting conditions be taken into account to cut down the list.

6. **Strategies** are resources combined in sequence(s) to accomplish a specific purpose, whether the end be an implementation step, an implementation activity, a process objective, a product objective, or a goal. Most strategic plans would include strategies geared to accomplishing the process and product objectives. Most funding proposals would include strategies for process objectives, product objectives, and project implementation activities.

Figure 1: Purpose Statement Matrix, By Specificity, Means-Ends Relationship, and Time

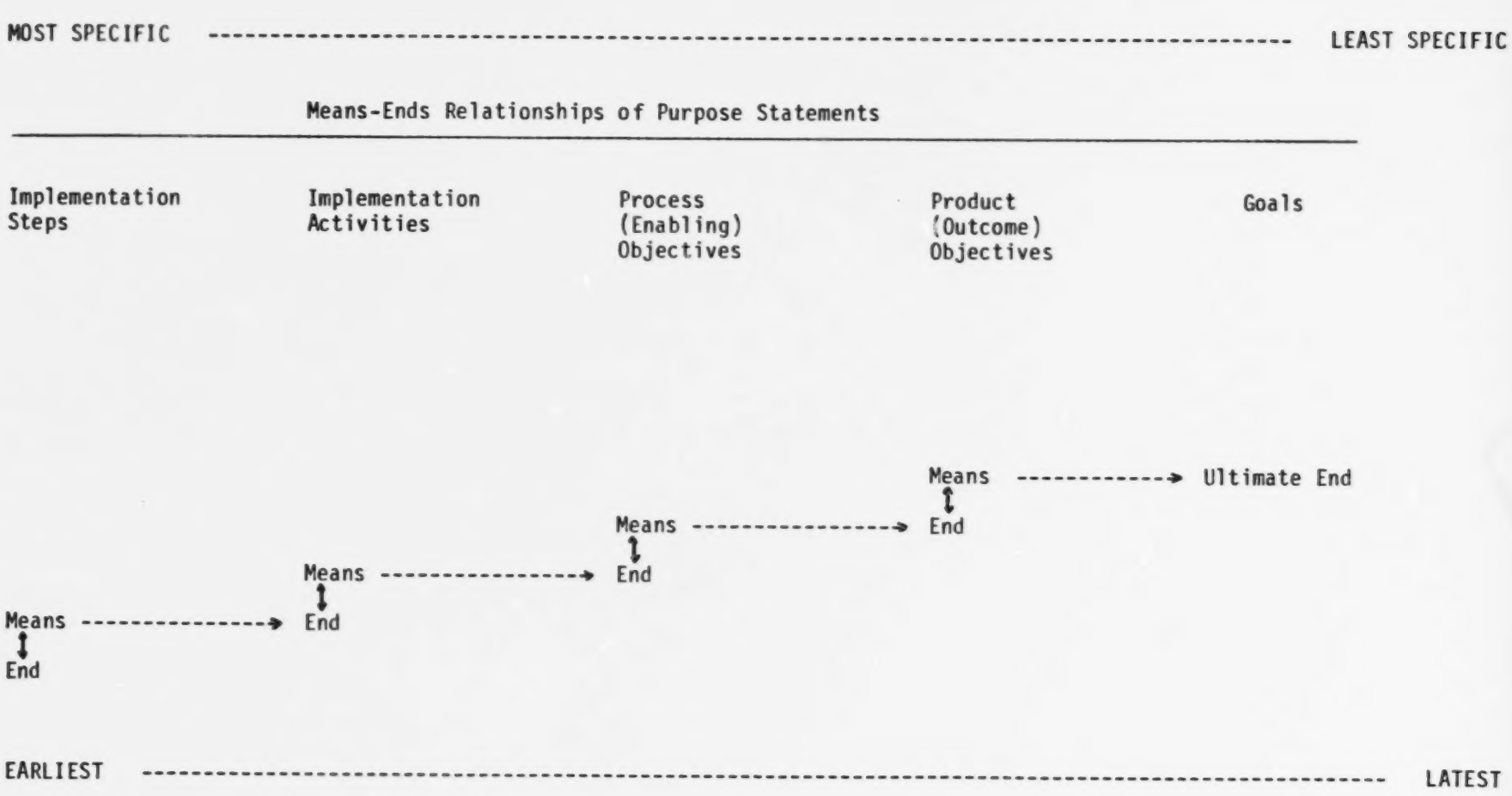


Figure 2: Order of Five Types of Purpose Statements in Strategic Planning and Implementation Sequences

Purpose Statements	Strategic Planning Sequence Order	Implementation Sequence Order
Goals	1	NA
Product (Outcome) Objective	2	4
Process (Enabling) Objective	3	3
Implementation Activities	4	2
Implementation Steps	5	1

As must be evident to the reader, the definitions of the terms proposed here contain a certain amount of overlap and redundancy. What is an end from one perspective, becomes a means from another equally valid point of view. Differences between terms are often differences of degree, more than differences in kind or substance. The meaning of these planning terms are often determined by relationships of specificity, position in a sequence, and time, returning us to Bertram Gross' astute observations.

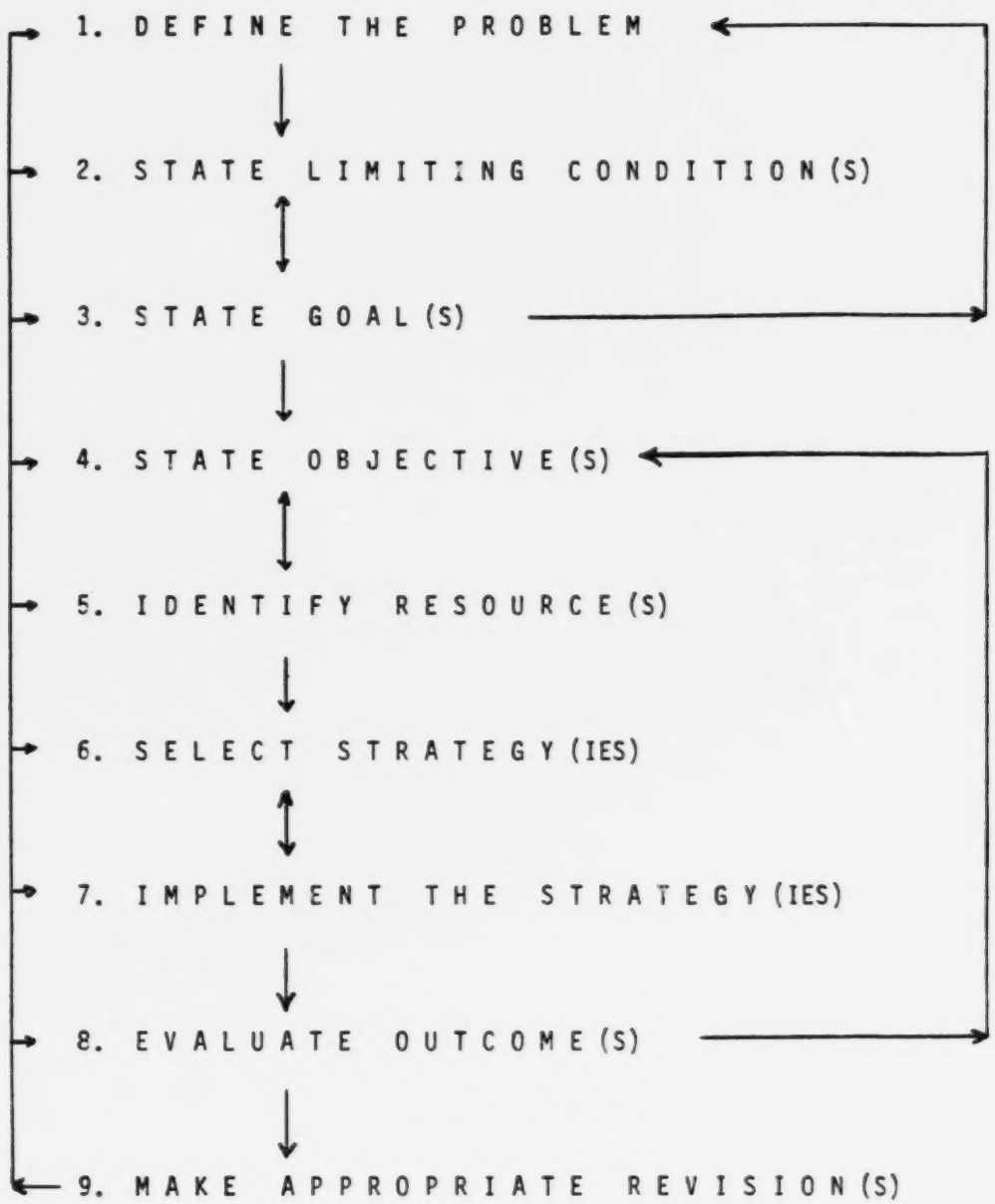
3.3 A General Problem Solving Model

The General Problem Solving Model depicted in Figure 3 allows us to analyze different kinds of problems. The problem may be an unacceptable condition in the target population, or it may be an unacceptable condition in resources needed to produce the desired change in the target group.

Regardless of the substantive nature of the problem, the process depicted by the model is the same. First, the problem must be defined in measurable terms as the differences between "what is," and "what should be." Next, limiting conditions relevant to the problem must be stated. Third, we must state the goal, in positive terms, as the solution to the problem, taking care to include all aspects of the stated problem without including any extraneous elements. The objective (outcome objective for the target population and process objective for resources) is stated as a partial solution of the problem which shows movement towards the goal. It also must be stated in measurable terms. Up to this point the model has been directed towards answering the question: "What is the problem and what are you going to do about it?"

The remainder of the model is directed to the questions: "How are you going to do it and how will you know if you've done it?" Only resources that are appropriate to attaining the objective(s) and are available (or can be

Figure 3: General Problem Solving Model



made available) are considered for use. These resources are then combined into project strategies that work within the stated limiting conditions. After implementation, the steps, activities, and process objectives can be formatively evaluated and attainment of the outcome objectives can begin. Revision of the procedures, based upon ongoing evaluation, should provide the information to revise any-and-all of the model components.

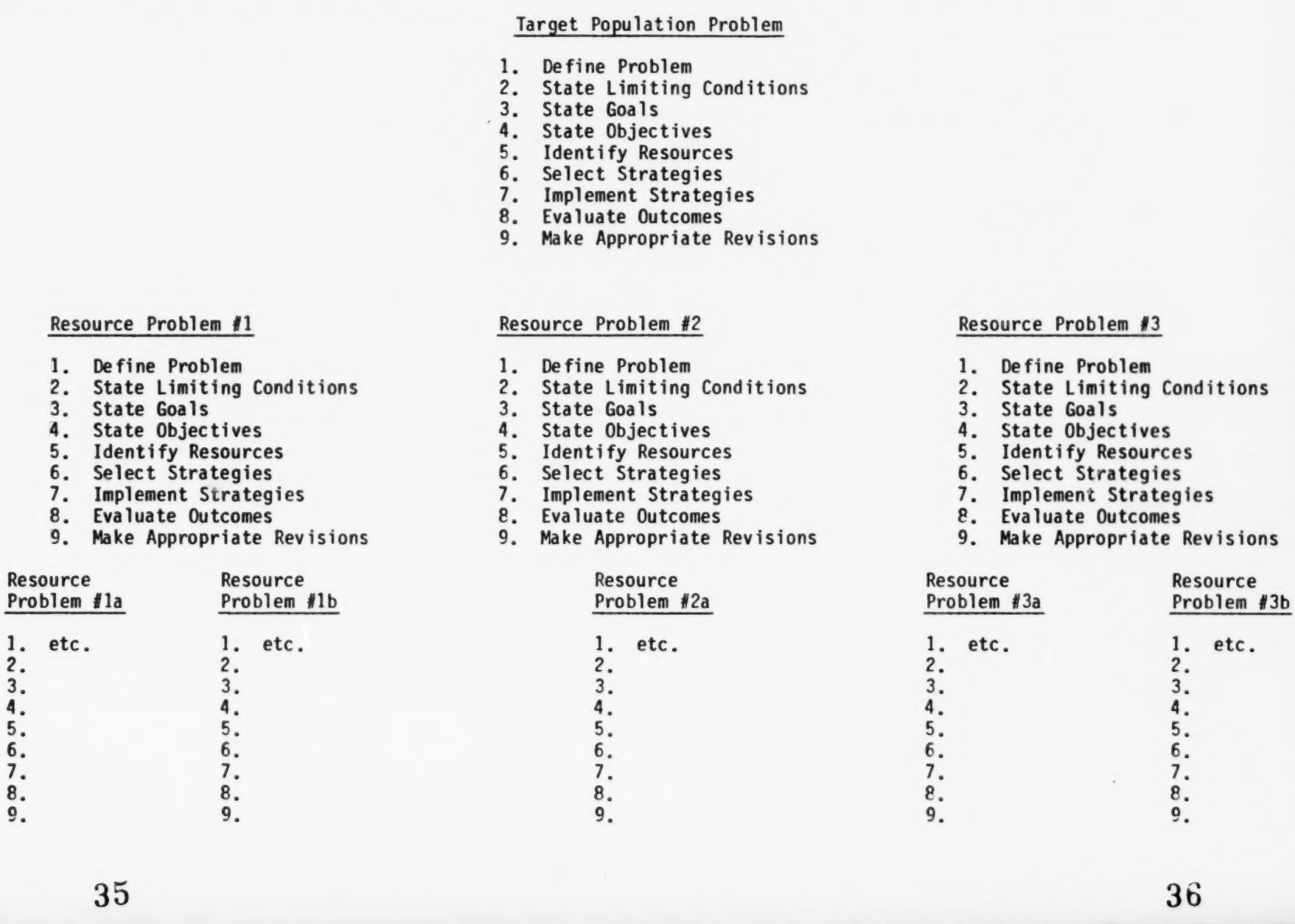
3.4 The Problem Pyramid

When the General Problem Solving Model is applied to a succession of problems in the target population and/or the target population's resources, the resulting analysis may be depicted as a problem pyramid (Figure 4). The Problem Pyramid is useful to see the relationships of problems to each other. The abbreviated form of the problem pyramid allows us to view the means/end relationships of problems without laborious charting.

We start the pyramid with a statement of the problem in the target population. Then we examine the tentative strategies we have selected and the resources that comprise the strategies. If a major resource needed for producing change in the target group is not appropriate and/or available in its present state, we have a problem. Using the General Problem Solving Model on successive "levels" of resource problems leads to the pyramidal shape, since we are moving from more general to more specific levels.

Some project planners may have the time and financial support to take this planning more than two or three levels in the planning process. In the REAP and BEIRD projects only two levels of problems were analyzed, one target population problem and four-to-six resource-related problems. Additional use of the problem solving process was made throughout the ongoing REAP project (Massey).

Figure 4: Hypothetical Problem Pyramid Developed Using the General Problem Solving Model



4.0 THE BEIRD STRATEGIC PLAN

4.1 The BEIRD Strategic Planning Model

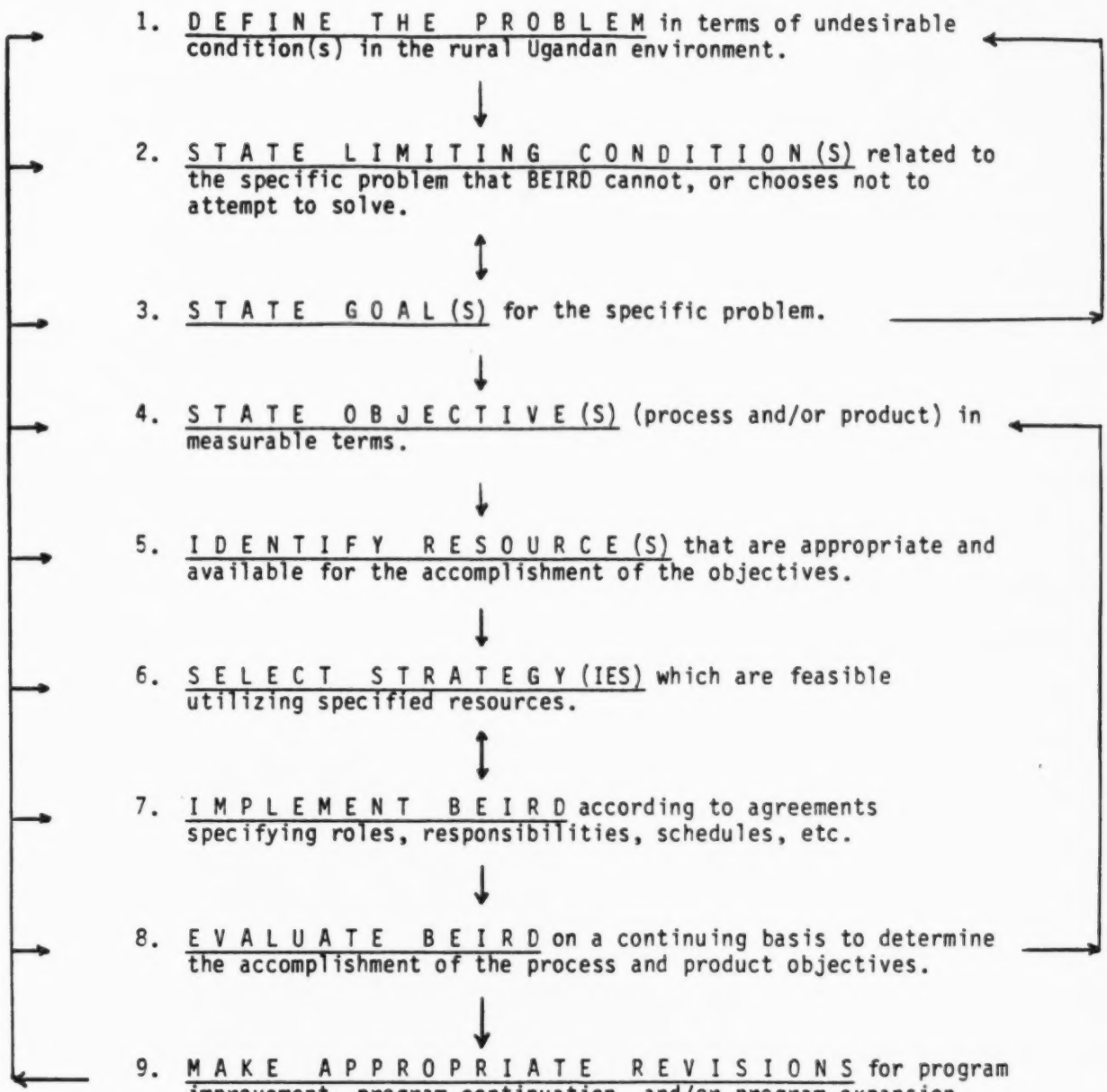
A slightly modified version of the General Problem Solving Model was used as the Strategic Planning Model for the Basic Education Integrated into Rural Development, or BEIRD program (Figure 5). This model was selected because it was not unnecessarily complex and contained the five essential elements needed for a strategic plan (situational analysis; goal analysis; operational objective setting; resources analysis; and formative evaluation). Essentially the same model had been used in planning the REAP program in Belize, where it provided a decision making framework during approximately nine years of that similar project's development, implementation, and evaluation.

4.2 The BEIRD Strategic Planning Process

The 1986 BEIRD planning process was essentially a reconceptualization process. In the late nineteen sixties and during the seventies BEIRD had been discussed and extensively planned. At least one funding proposal (Government of Uganda and UNESCO) had been written. The project had been in operation for approximately eight years. In addition, during 1985, the Ugandan MOE and CARE/Uganda developed a proposal to reestablish BEIRD, but revolutionary developments in the country had overtaken the planning process and forced a year-long postponement.

Experts in the diffusion of innovations such as BEIRD would expect a preliminary phase of trial and experimentation before the innovation was adopted or rejected (Rogers, 1983). This trial phase had already passed for the leadership of the MOE who enthusiastically supported BEIRD. June, 1986 was a unique period in recent Ugandan history. The optimism of the revolutionary

Figure 5: Strategic Planning Model for the Basic Education Integrated into Rural Development (BEIRD) Program, June, 1986


1. DEFINE THE PROBLEM in terms of undesirable condition(s) in the rural Ugandan environment.
2. STATE LIMITING CONDITION(S) related to the specific problem that BEIRD cannot, or chooses not to attempt to solve.
3. STATE GOAL(S) for the specific problem.
4. STATE OBJECTIVE(S) (process and/or product) in measurable terms.
5. IDENTIFY RESOURCE(S) that are appropriate and available for the accomplishment of the objectives.
6. SELECT STRATEGY(IES) which are feasible utilizing specified resources.
7. IMPLEMENT BEIRD according to agreements specifying roles, responsibilities, schedules, etc.
8. EVALUATE BEIRD on a continuing basis to determine the accomplishment of the process and product objectives.
9. MAKE APPROPRIATE REVISIONS for program improvement, program continuation, and/or program expansion.

government and many citizens produced a climate where change was not only viewed as possible, but desirable. This predisposition towards change helped the planning process for BEIRD.

An inside/outside team was formed to bring together the experience and skills of the Ugandans who had designed and implemented the original Namutamba/BEIRD project (the insiders) and the fresh viewpoint and skills of the CARE/Uganda staff (outsiders). It was anticipated that the inside/outside team would facilitate the planning and acceptance of an innovative idea. The Ugandan participants for the planning effort were: the Assistant Chief School Officer (equivalent to Deputy Commissioner of Education or Assistant Secretary of Education in the U.S.); the Acting Head of the National Curriculum Development Centre (charged with developing and implementing all curricula for MOE); the Secondary School Science Education Officer (who had assisted in the design of the Namutamba/BEIRD project); a District Education Officer from the Inspectorate of Schools (responsible for inservice training and curriculum compliance in two Districts); and the former Coordinator of the Namutamba/BEIRD project. The group on the whole was an influential and hard working one, well-connected within the MOE and other Government ministries. The CARE/Uganda Country Director assigned to the planning group: a CARE/BEIRD Coordinator-designate, who was an experienced CARE project manager of an agroforestry project in Uganda, and a curriculum/program consultant, who had worked with the REAP program in Belize for nine years. Hopefully, the consensus needed between the inside/outside team members would develop at the same time that they were preparing the first drafts of the strategic plan.

The preliminary planning consisted of: fact-finding; discussion; drafting; and revisions. All these activities were conducted together, with team

members working twenty-four straight days. Certain assumptions were implicit in the manner in which the work was carried out and the use of a strategic planning model:

1. the successful diffusion of an innovation such as BEIRD required the substantive participation of representatives from all groups who would be necessary to make the program a success.
2. the members of the team were equals, since each represented their respective agencies, and both the MOE and CARE were to fund BEIRD.
3. the members had the authority to proceed with planning, but ultimate approval rested with the appropriate highest authorities in each of the participating organizations (Government of Uganda Ministries and CARE/Canada).
4. if consensus were arrived at, each agency would use the strategic plan for the preparation of funding proposals, which would then be mutually validated by appropriate signatures and/or agreements. Approval of funding by CARE was dependent on donor participation.
5. funding for BEIRD would be shared by the Government of Uganda and CARE/Canada and would be forthcoming in allotments dependent on the accomplishment of the program objectives.

After two days of preliminary discussions in Kampala, nine days were dedicated to a preliminary fact-finding tour of five districts. The purpose of the visits was twofold: first, the members were to evaluate the viability of the 1985 GOU-CARE proposal for BEIRD; second, they were to gauge the interest of District-level, institutional-level, and local-level people for a program such as the former BEIRD project. More importantly, team members were to ask people's opinions on what would work and what wouldn't. In other

words, should we do BEIRD? If so, what should be accomplished? And, how should it be done, so as to get as much local and district support as possible?

One Regional Administrative Office and three District Offices were visited to ask questions concerning the adequacy of the administrative structure of the original Namutamba/BEIRD program and the possible District-level organization of a revived BEIRD program. District-level administrators theoretically have direct control over the schools and other governmental institutions in their areas. Practically speaking, the support that they can give to a school or program in their district is severely limited by available funds, logistics, and the number of institutions involved. This indicated a need for the efficient use of resources that did exist, and generation of support for BEIRD at the local level.

Five teacher training colleges, including Namutamba were visited to review the vestigial remains of BEIRD and ask questions of how a potential program might operate most efficiently. Of central importance was how BEIRD could be incorporated into an academically-oriented teacher college (TC) curriculum. Also of interest was how the original design of the BEIRD project using TC's as focal points for retraining (inservicing) teachers in the primary schools functioned.

One elite rural primary/secondary school and thirteen other rural primary schools of varying caliber, some of which participated in the original Namutamba/BEIRD program, were visited. Of particular interest in these visits was the number of hours available for teaching practical subjects, the availability of land and water at most primary school sites, the interest on the part of the local residents to assist the school in supporting a BEIRD program, and the general receptivity of the Headmasters-Headmistresses to an

innovative curriculum. Although it was stressed that specific sites for the proposed BEIRD program should be selected using previously developed screening criteria and systematic site surveys, it was inevitable that some preliminary judgements on the appropriateness of potential sites would be made by the team members.

Travel time driving between district towns (county seats of government) and rural villages was spent discussing responses to questions and reviewing the evaluations, curriculum, and other documents about the Namutamba/BEIRD project provided by the MOE team members.

A wide range of suggestions and degrees of interest were expressed by a broad spectrum of individuals interviewed. The Ugandans on the planning team and local people interviewed were particularly adept at focusing on the problems and successes of a nearly defunct BEIRD program. They pointed out the practical limitations imposed by the rural environment and discussed ways in which resources might be used to ameliorate the most pressing problems. The CARE personnel asked questions related to the experiences in BEIRD and asked open-ended questions about aspects of REAP that might be applicable to the Ugandan context.

The first rough draft of the strategic plan was written by five team members on a weekend. This was reviewed in individual consultations with each of the team members and then revised. The second draft was written by four team members, reread independently, and suggestions discussed in individual conferences. A third draft was then written and discussed as a draft working copy. It was reviewed by the highest authorities in the Ministry of Education (including the Minister) and CARE (CARE/Uganda Director and CARE/Canada representative). Finally, minor revisions from the five team members were made and a fourth draft was produced for use with an Ad Hoc interagency committee.

Although the idea of interministerial cooperation and coordination had been discussed during the Namutamba/BEIRD pilot project, no structural organization to coordinate such a group ever developed. The revolutionary government was stressing such cooperation at the national, district, and village levels, which made it somewhat easier to convene such an unorthodox group. This was an instance where the REAP experience was helpful. The REAP National Advisory Committee had been a vital and central administrative aspect of a program that required the eclectic and well coordinated use of governmental resources. The Minister of Education invited several interested groups to attend a preliminary review of the strategic plan. These groups had the understanding that, if they choose to participate in a revived BEIRD program, they would be equal members on the BEIRD Advisory Committee and make substantive decisions about the planning, implementation, and evaluation of the proposed program.

The Ministry of Agriculture and Animal Husbandry, the Ministry of Social Welfare, the Ministry of Health, and representatives of a large school food program, as well as MOE representatives from the national, district, and institutional-levels (TC and primary school) attended the first meeting and reviewed the draft strategic plan. Over the next four months this same group met three additional times to make minor modifications to the strategic plan, discuss the site selection process, ask for clarification of their agencies' roles in the proposed BEIRD program, and begin preliminary implementation steps.

4.3 The BEIRD Strategic Plan

Two planning documents, a strategic plan and a proposal for funding were developed. The proposal for funding submitted to CARE/Canada was a reflection of the strategic plan, but provided more detail. Both of these documents had

two target populations, rural primary school students, who didn't go on for further formal education and young rural adults. For brevity and to aid the narrative, only the primary school aspect of BEIRD is covered here, and the texts of the strategic plan and proposal have been abbreviated and combined.

The BEIRD strategic plan and proposal identified five broad problems, one related to an unsatisfactory condition with primry school leavers, and the other four related to resource problems in the rural environment that would have to be changed before the BEIRD strategies could be implemented. These five problems are depicted in Figure 6 as a problem pyramid, and are described in the remainder of this section with each of the nine steps of the problem solving model.

4.3.1 Problem #1: Life-Adaptive Knowledge and Skills

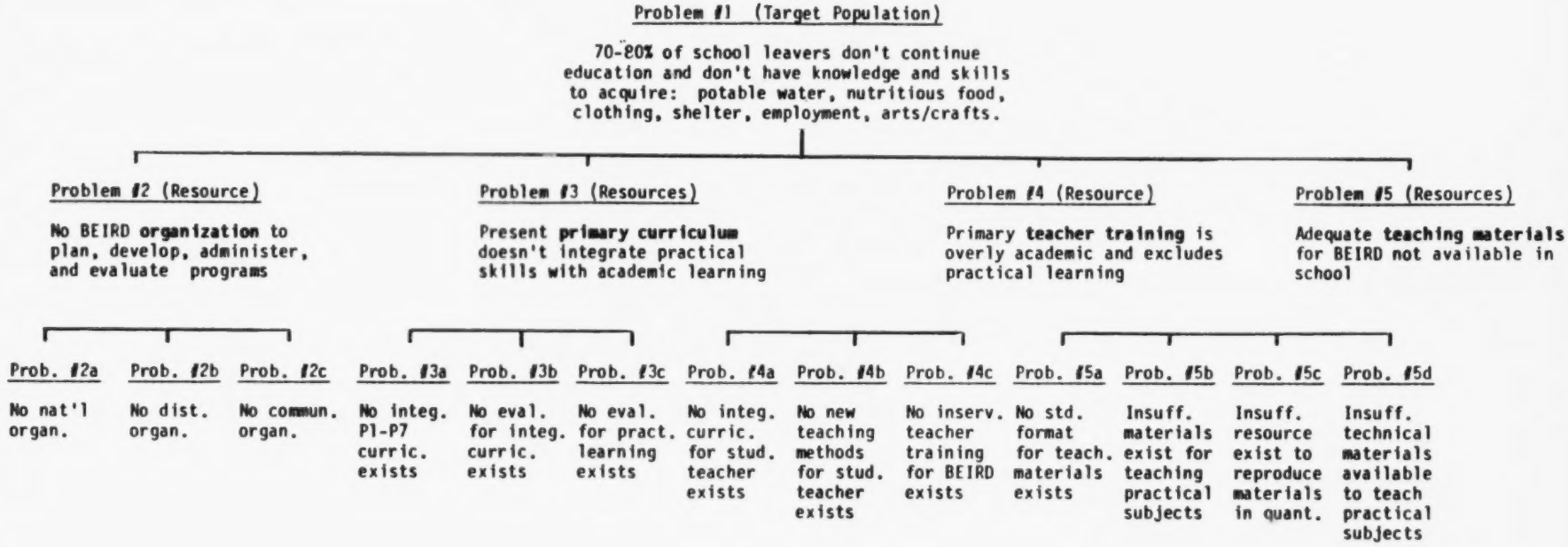
Problem Definition: Between 70-80 percent of primary school leavers in Uganda do not continue in the formal education system. The academic education received in P1-P7 does not prepare them for more productive lives in the rural areas. They lack the knowledge, skills, and attitudes to acquire: potable water; sufficient nutritious food; clothing; shelter; employment; and/or arts-crafts (appropriate technology).

Limiting Conditions:

a. Many parents and children have negative attitudes about living and working in rural areas.

b. Widespread conditions of underdevelopment in rural areas cannot be changed all at once; BEIRD can only change a portion at a time.

Figure 6: Problems Addressed by the BEIRD Program 1986 Strategic Plan, Arranged As A Problem Pyramid


Problem #1 (Target Population)
70-80% of school leavers don't continue education and don't have knowledge and skills to acquire: potable water, nutritious food, clothing, shelter, employment, arts/crafts.
Problem #2 (Resource)
No BEIRD organization to plan, develop, administer, and evaluate programs
Problem #3 (Resources)
Present primary curriculum doesn't integrate practical skills with academic learning
Problem #4 (Resource)
Primary teacher training is overly academic and excludes practical learning
Problem #5 (Resources)
Adequate teaching materials for BEIRD not available in school
Prob. #2a
No nat'l organ.
Prob. #2b
No dist. organ.
Prob. #2c
No commun. organ.
Prob. #3a
No integ. P1-P7 curric. exists
Prob. #3b
No eval. for integ. curric. exists
Prob. #3c
No eval. for pract. learning exists
Prob. #4a
No integ. curric. for stud. teacher exists
Prob. #4b
No new teaching methods for stud. teacher exists
Prob. #4c
No inserv. teacher training for BEIRD exists
Prob. #5a
No std. format for teach. materials exists
Prob. #5b
Insuff. materials exist for teaching practical subjects
Prob. #5c
Insuff. resource exist to reproduce materials in quant.
Prob. #5d
Insuff. technical materials available to teach practical subjects

c. Resources of GOU are extremely limited and cannot support all of the development or maintenance of BEIRD.

d. Because of the phased nature of BEIRD, some children in project schools will have received less than three years of the BEIRD curriculum before the program is evaluated.

Goal Statement: The purpose of the rural environment component of BEIRD is to assist school leavers staying in rural areas to improve their living conditions by making the environment more productive and attractive.

Statement of Objectives: BEIRD will enable P7 school leavers from forty-eight primary schools in four districts, who have had a minimum of three years of BEIRD to:

a. demonstrate basic knowledge and skills necessary to establish and maintain more productive, relatively self-sufficient, small, mixed farming systems appropriate to the district/village in which they live.

b. utilize appropriate technology to acquire potable water, increased agricultural yields of nutritious, culturally acceptable foods, and improved housing (including sanitary facilities).

c. use agriculture, appropriate technology, and/or arts-crafts to generate improved income and/or more productive self-employment.

Resource Identification: Appropriate/available resources include:

a. primary schools and teacher colleges that have adequate land.

b. agricultural implements, supplies, and technical expertise.

c. specialized training in mixed farming, agroforestry, beekeeping, construction, and health/sanitation.

d. instructional materials on appropriate technology.

e. instructional materials from other Ugandan public and private agencies, from other CARE countries, and other sources.

f. rural families that have adequate land to apply mixed farming techniques.

g. primary school and TC buildings/compounds for BEIRD use.

Strategies: BEIRD will:

a. enable educators and students to learn by doing and produce while learning.

b. use TC's as supply, demonstration, and training centers for student teachers and staffs of primary schools.

c. use primary schools as demonstration and training centers for primary students and school leavers.

d. train parents and other community members to teach practical applications to primary students and school leavers.

e. establish demonstration centers for mixed farming and appropriate technology in each project primary school and TC.

f. develop a "mixed-farming" profile to determine crops to be emphasized and appropriate technology needed for each district.

g. use only locally available and cost-effective materials in the mixed farming and appropriate technology demonstration centers.

h. conduct community events, such as agricultural fairs, shows, dinners (using BEIRD-produced foods) at the schools to attract school leavers, parents, and community members.

i. revitalize and/or establish youth clubs (such as 4-H) in each school.

Implementation Activities:

a. Each primary and TC will have areas devoted to mixed farming, animal rearing, and construction of appropriate technology by the end of the second year of operation of BEIRD.

b. Profits will be used to maintain BEIRD.

c. Community members and students will construct the BEIRD facilities on the BEIRD school compounds by the end of the first year of operation at the school.

d. School leaver activities will be initiated by the beginning of the second year of operation.

Evaluation:

a. Construction of school farms, agricultural output, and appropriate technology products will be evaluated by an annual formative evaluation.

b. Frequency and attendance at community events will be evaluated annually.

c. The establishment and functioning of school clubs will be formatively evaluated annually.

d. The number and quality of school leaver projects will be evaluated at the end of the second and third years in each school, and annually thereafter.

e. A third-party evaluation of BEIRD will be conducted at the end of the third year of the program.

4.3.2 Problem #2: Organization/Management

Problem Definition: No organizational mechanism exists for the planning, development, administration, and evaluation of a revitalized BEIRD program that will systematically demonstrate the feasibility of such a model for nationwide implementation.

Limiting Conditions:

a. The Government of Uganda (GOU) provides parameters which must be used to organize BEIRD.

b. Scarce government resources must be redirected to implement such a project; new GOU resources will not be available.

c. Scarce resources require a phased implementation of BEIRD.

d. Planning, development, and evaluation will have to occur simultaneously with project implementation.

e. Resistence to change must be expected; adoption of innovations will require time and positive results.

Goal Statement: BEIRD will establish a viable organization for the planning, development, administration, and evaluation for the First Phase-Demonstration program and for possible expansion of BEIRD into a national program.

Statement of Objectives: BEIRD will:

a. establish a BEIRD National Advisory Committee.

b. establish a District Advisory Committee in each district where BEIRD operates.

c. establish a community committee in each TC where BEIRD operates.

d. adopt a strategic plan as the basis for operational decisions.

e. establish an administrative structure and procedures.

f. develop and implement formative and summative evaluation procedures for process and product objectives.

Resource Identification: Appropriate/available resources include:

a. Many governmental and non-governmental organizations (NGO's) exist that could participate in the National Advisory Committee.

b. Ninety-two (92) TC's and schools could be used as inservice centers.

c. Parents and the Parent-Teacher Associations are available to help BEIRD.

d. Village committees being structured by the Government could also assist in establishing BEIRD.

e. Technical assistance in evaluation is available.

f. Interagency cooperation is being stressed by GOU.

Strategies: BEIRD will utilize:

a. only existing or planned GOU organizations at the national, district, and community levels (Figure 7).

b. inter-ministerial interagency cooperation/coordination.

c. grass roots, village-community participation to plan, implement, evaluate, and continue the project.

d. rural primary schools and training institutions as focal points for integrating education and rural development.

e. systematic diffusion techniques, including the public (MOE) information channels.

f. six (6) TC's and forty-eight (48) associated primary schools will receive all of the BEIRD Demonstration Project resources. Most of the remaining TC's (approximately 86) and a limited number of associated primary schools will receive the BEIRD curricula and inservice training materials.

Implementation Activities: The BEIRD project will:

a. convene a National Advisory Committee consisting of high-level representatives of GOU and NGO's (Figure 7) within 30 days of project approval.

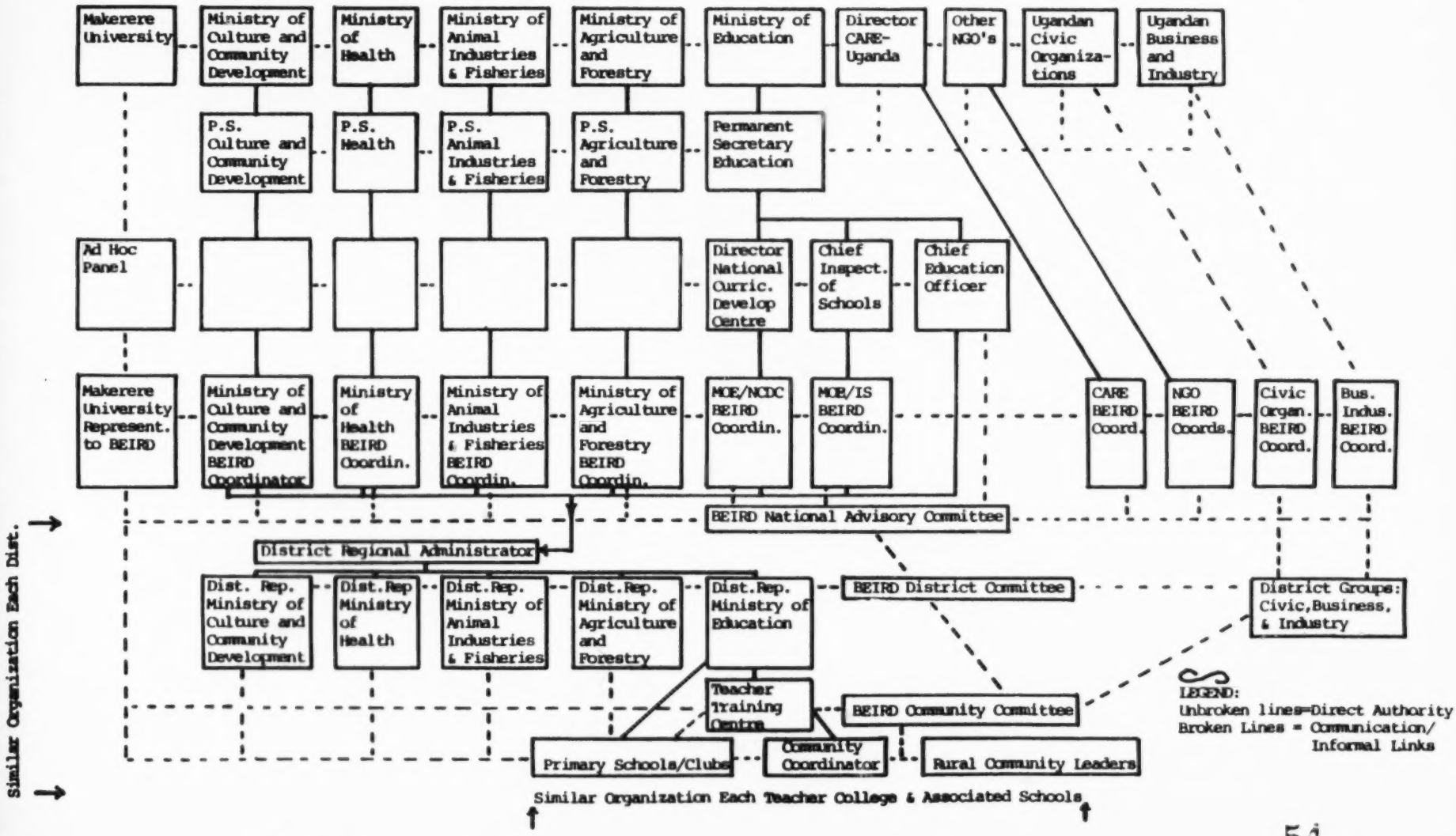
b. identify and confirm appointment of two, full-time BEIRD Coordinators and assign district and local personnel appropriate roles and responsibilities in BEIRD.

c. convene BEIRD district and community committees within ninety days of the project initiation to meet in the appropriate TC, and continue to meet at least once a month.

d. develop a procedures manual consistent with GOU procedures by the end of the first year of the project.

e. implement BEIRD during the Demonstration Phase with: four districts, four TC's, and sixteen primary schools by the fourth month; four districts, four TC's, and twenty-four primary schools by the end of the sixteenth month; and four districts, six TC's, and forty-eight primary schools by the end of the twenty-eighth month of the project.

Figure 7: Proposed Organizational Structure for BEIRD, June, 1986


Makerere University
Ministry of Culture and Community Development
Ministry of Health
Ministry of Animal Industries & Fisheries
Ministry of Agriculture and Forestry
Ministry of Education
Director CARE-Uganda
Other NGO's
Ugandan Civic Organizations
Ugandan Business and Industry
P.S. Culture and Community Development
P.S. Health
P.S. Animal Industries & Fisheries
P.S. Agriculture and Forestry
Permanent Secretary Education
Ad Hoc Panel
Director National Curric. Develop Centre
Chief Inspect. of Schools
Chief Education Officer
Makerere University Represent. to BEIRD
Ministry of Culture and Community Development BEIRD Coordinator
Ministry of Health BEIRD Coordin.
Ministry of Animal Industries & Fisheries BEIRD Coordin.
Ministry of Agriculture and Forestry BEIRD Coordin.
MOE/NCDC BEIRD Coordin.
MOE/IS BEIRD Coordin.
CARE BEIRD Coord.
NGO BEIRD Coords.
Civic Organ. BEIRD Coord.
Bus. Indus. BEIRD Coord.
BEIRD National Advisory Committee
District Regional Administrator
Dist. Rep. Ministry of Culture and Community Development
Dist.Rep Ministry of Health
Dist.Rep. Ministry of Animal Industries & Fisheries
Dist.Rep. Ministry of Agriculture and Forestry
Dist.Rep. Ministry of Education
BEIRD District Committee
District Groups: Civic, Business, & Industry
Teacher Training Centre
BEIRD Community Committee
Primary Schools/Clubs
Community Coordinator
Rural Community Leaders
Similar Organization Each Dist.
Similar Organization Each Teacher College & Associated Schools
LEGEND:
Unbroken lines=Direct Authority
Broken Lines = Communication/ Informal Links

f. select associated primary schools based upon: demonstrated experience; availability of local resources; demonstrated support from the community; enthusiasm of Head Master/Mistress; distance from TC; and contribution to the Demonstration Phase of the project.

Evaluation: The organization, management, and implementation of BEIRD will be evaluated:

a. formatively at the end of each year using criteria and procedures approved by participants.

b. by a third party near the end of the three-year demonstration project.

4.3.3 Problem #3: Curriculum

Problem Definition: The actual school curriculum does not integrate the child's environmental needs, including the need for practical and/or saleable skills, into the learning process. Academic subject matter and academically-oriented tests are overemphasized, almost to the exclusion of practical skills and positive attitudes about the rural environment. Preparation for eventual employment and the world of work is not presently a functional part of the primary school curriculum.

Limiting Conditions:

a. Academic subjects in the curriculum must be maintained.

b. Students from BEIRD school will compete with students from non-BEIRD schools in the Primary School Leaving Examination.

c. Attitudes about academic achievement prevalent among educational leaders, parents, and society will not change rapidly.

d. Formal educational opportunities for school leavers will remain scarce for many years.

Goal Statement: BEIRD will produce a curriculum which integrates appropriate environmental knowledge, skills, and attitudes into the existing curriculum so as to make it more relevant, provide the students with practical skills, and maintain academic achievement, for individual and national development.

Statement of Objectives: BEIRD will:

a. develop a curriculum appropriate for P1-P7.

b. develop evaluation procedures to: compare achievement of BEIRD and non-BEIRD students on the PLE; document achievement of practically-oriented knowledge and skills; document attitude change.

Resource Identification: Appropriate/available resources include:

a. previously developed BEIRD curriculum materials.

b. the National Curriculum Development Centre (NCDC).

c. personnel and materials from GOU ministries.

d. personnel and materials from NGO's.

e. previously developed curricular and other materials from REAP and other sources.

f. the National Examination Board.

Strategies:

a. BEIRD will use modified curriculum development strategies of the NCDC, approved by the MOE and CARE/BEIRD program coordinators.

b. Subject matter expertise not found in the NCDC will be requested through the BEIRD National Advisory Committee.

c. Continuing consultation with the National Examination Board will be held to assure compatibility between BEIRD evaluation and national standards.

d. BEIRD will be an integral part of the primary school curriculum, with specified times during regular school hours devoted to practical learning activities and integrated learning in all academic subjects.

e. specialized technical services will be acquired, as needed.

Implementation Activities: The schedule for BEIRD curriculum development will be:

a. develop P7, P6, and P5 by the third month of the project.

b. develop P4 and P3 by the ninth month of the project.

c. develop P2 and P1 by the fifteenth month of the project.

Evaluation:

a. formative evaluation of the curriculum process objectives and outcome objectives will be conducted annually.

b. third-party evaluation will be conducted during the first half of the third year of the project.

4.3.4 Problem #4: Preservice and Inservice Teacher Training

Problem Definition: Present primary teacher training emphasizes academic learning and excludes practical application. Academic subjects are compartmentalized rather than integrated into life-adaptive knowledge and skills. The overemphasis on academics is passed onto primary school students.

Limiting Conditions:

a. student teachers will continue to be trained in academic subjects.

b. training college curricula will change only with justification for change.

Goal Statement: Selected TC's and inservice courses will adopt a modified teacher college curriculum and inservice teacher training methods that will maintain academic achievement for primary school students and student teachers, while at the same time preparing teachers to integrate primary school academic instruction with practical learning.

Statement of Objectives:

a. A modified curriculum that will infuse BEIRD objectives and instructional methods into preservice teacher training and inservice orientation will be developed and implemented.

b. BEIRD teachers will demonstrate competence in instructional methods which will include activity-based, competency-based, and integrated teaching methods.

c. Preservice and inservice teachers will demonstrate competence in developing BEIRD Teaching Modules.

d. Standardized teacher training materials for preservice and inservice will be developed and implemented.

Resource Identification: BEIRD will utilize the following appropriate/available resources:

a. existing REAP curricular, teacher training, and inservice orientation materials, adapted for use in Uganda.

b. established review/selection procedures for acquiring additional existing materials.

c. MOE and other GOU and private sector capabilities to reproduce materials.

d. instructional personnel at TC's to act as the teacher trainers in both preservice and inservice training.

e. contractual services for specialized portions of the preservice/inservice plan.

Strategies:

a. Personnel from Makerere University, the NCDC, the district MOE personnel, and teaching staff from the TC's will be trained as the first trainers of trainers. Each successive group of educators trained for BEIRD will be potential trainers of others.

b. At least one set of teacher training materials will be provided to each TC, inservice training team, and primary school for initial and follow-up preservice/inservice training.

c. A two-year BEIRD course will be made part of the TC curriculum.

d. The TC's will have both technical (agroforestry, animal husbandry, appropriate technology, health/sanitation) training facilities, and BEIRD pedagogical training facilities for demonstration purposes.

e. All acquired/developed materials will be made to fit Ugandan professional and cultural norms.

f. Annual inservice schedules will be established for each district and TC.

g. Follow-up inservice will be conducted at primary schools.

h. Each TC will designate a full-time BEIRD Coordinator.

i. District-level personnel from the Ministries of Education, Agriculture and Forestry, Animal Industries and Fisheries, and Health, as well as individuals from the private sector, will provide technical assistance for preservice and inservice training.

Implementation Activities:

a. Six (6) primary teacher training colleges will be selected as focal points for preservice and inservice training.

b. Inservice training will follow a sequence of a half-day orientation sesson; a two-day orientation session; an eight-day training course; a one-to-two-day follow-up training session at each host TC; and one hour of follow-up inservice training at each primary school every two weeks.

c. Initially, resources necessary for preservice/inservice training not available will be developed within the MOE, through an agreement with CARE.

Evaluation:

a. The TC BEIRD curriculum and materials will be formatively evaluated by parties designated by MOE and will be included in the annual formative evaluation.

b. Student teacher academic achievement and acquisition of practical knowledge and skills will be formatively evaluated annually.

c. Follow-up inservice training at the rural primary schools will be formatively evaluated annually.

4.3.5 Problem #5: Primary School Teaching Materials

Problem Definition: Sufficient quantities of standardized teaching materials are not widely available for use by rural primary school teachers. The materials generally in use do not integrate practical and academic subjects and do not use activity-based, competency-based instructional techniques.

Limiting Conditions:

a. Not all Ugandan educators are familiar with integrated, competency-based, activity-based curricular materials.

b. Approximately thirty percent of Uganda's rural primary teachers have received no formal pedagogical training.

c. Rural primary teachers that are licensed and/or trained have a traditional orientation to instruction and instructional materials.

d. Logistics and available time will place some limits on inservice training.

e. MOE has limited capabilities for reproducing large quantities of teaching materials.

Goal Statement: The goal of the innovative teaching materials will be to enable Ugandan rural primary school teachers and student teachers to integrate the primary school student's academic education with basic life-adaptive knowledge and skills, that will further individual and societal development through practical applications of learning.

Statement of Objectives:

a. develop a standardized format for BEIRD Teaching Modules.

b. select/develop appropriate existing technical materials appropriate for BEIRD and Uganda.

c. produce a series of BEIRD Teaching Modules that teach the basics for improving rural water, food, shelter, clothes, and arts-crafts.

d. field test, revise, reproduce, disseminate/diffuse the BEIRD Teaching Modules.

Resource Identification:

a. Uganda educators have capabilities to develop the BEIRD Teaching Module format.

b. Individuals going through preservice/inservice for BEIRD can develop materials in the process.

c. A NCDC panel can review/revise or develop the BEIRD Teaching Modules for content and methodological validity.

d. The Skill Development for Self-Reliance (SDSR) Modules developed by MOE and other similar materials can be used as the basis for the BEIRD Teaching Modules. Approximately 200 existing modules have been identified.

e. The Pied Crow environmental magazine is availabe for use.

f. Other NGO's have materials that can be review/selected for adoption/adaptation in BEIRD.

Strategies:

a. The NCDC panel will direct all curriculum and instructional materials development.

b. Development and production of the BEIRD Teaching Modules will occur during each of the eight-day inservice workshops.

c. The format for the BEIRD Teaching Modules will be decided upon through consensus of representatives of the Ugandan educational community.

d. CARE/Uganda's ongoing programs in forestry, beekeeping, and health will, when appropriate, be used as additional technical components of the instructional materials program.

e. The teacher's page of the Pied Crow magazine will be modified to reflect the general format of the BEIRD Teaching Modules.

f. A review/selection of existing primary school materials and comparison with practical competencies identified in the "district profiles" will determine if any materials development is necessary.

Implementation Activities: A schedule of curriculum development (BEIRD Teaching Module) will be elaborated as part of the annual work plan.

Evaluation:

a. BEIRD Teaching Modules will be evaluated in the field and revised at successive workshops.

b. A cost-effectiveness analysis of the use of Pied Crow will be conducted as part of the formative evaluation.

c. The annual formative evaluation will include the development and utilization of the BEIRD Teaching Modules.

5.0 SUMMARY AND CONCLUSIONS

Since the initial strategic planning period in June, 1986, the National BEIRD Advisory Committee met several times and has begun modifying the plan to fit the needs of the participants. This was the hoped for outcome. Since it was assumed that an undertaking such as BEIRD could not be accomplished with the resources of the Ministry of Education and CARE/Canada alone, it is vital that other Ugandan Ministries and Non-Governmental Organizations, international and domestic, lend their assistance to the endeavor. A strategic plan, because of the broad sweep of its content and time span covered, can accommodate the varing roles and resources of many agencies. Unencumbered by bureaucratic obstacles in the same way that proposals, contracts/agreements between agencies and/or governments are, it can provide a more flexible format for long-term planning and short-term adaptation and allow each organization the leeway to use its own formats for internal reasons.

Using the strategic planning format with an inside/outside team which would advise their respective organizations was also found to be an excellent way to arrive at working consensus between key participants. Hopefully, these benefits will be in addition to the programmatic clarification and facilitation which are expected from any planning effort.

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